

User Operation Specifications and Maintenance Guide for WG12 Wireless Charger

1. Document Overview

This operation specification is formulated for the WG12 wireless charging device, aiming to standardize the entire process of the device's power-on, charging, status management, and shutdown operations. It ensures the safe and efficient operation of the device, while guaranteeing a stable charging experience for Qi-compliant charged devices (such as mobile phones, smart watches, etc.). This specification applies to end users, operation and maintenance personnel, and technical support staff of this device.

Product Overview

Product Name: Wireless Charger

Product Model: WG12

Input rating: DC 15V

Max wireless output rating: 25W

Used Location: used on the furniture (sofa or chair etc.)

Environment requirement

Operation temperature: $-10^{\circ}\text{C} \sim +45^{\circ}\text{C}$.

Storage temperature: $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$.

Operating Humidity: 10%~80%RH, non-condensing.

Storage Humidity: 10%~85%RH, non-condensing.

Terminology Explanation:

- The model of the wireless charging device referred to in this document. It supports a maximum wireless charging power of 25W and is equipped with functions such as intelligent temperature control and Foreign Object Detection (FOD).
- **Qi Protocol:** An international wireless charging standard launched by the Wireless Power Consortium (WPC), which ensures cross-brand charging interoperability between compatible devices.
- **FOD (Foreign Object Detection):** A foreign object detection technology that can identify metal foreign objects in the charging area, avoiding overheating and short-circuit risks caused by foreign objects.

2. Device Power-On Operation

(1) Preparation Before Power-On

1. **Power Adapter Check:** Confirm the use of the **original factory-supplied 15V3A power adapter**. Check that the adapter cable and plug are free of damage or oxidation, and that the interface connection is secure.
2. **Device Appearance Check:** Confirm that the surface of the wireless charger is free of cracks or deformation, and that there is no dust blockage in the heat dissipation vents (if there is dust, clean it with a soft brush before powering on).
3. **Environment Confirmation:** Place the device on a flat, dry, and well-ventilated tabletop, away from water sources, high-temperature heat sources, and strong electromagnetic interference sources.

(2) Power-On Process

Turn on the device's power switch. After the 15V 3A power supply is connected, power is transmitted to the wireless charging module. After the device completes self-check (approximately 3-5 seconds), if there is **no abnormal indicator prompt** (this device is designed with no constant indicator light during standby to ensure a silent operation experience), it means the device has normally entered the standby state and is ready for charging operations.

3. Charging Operation for External Devices

(1) Placement of Charged Devices

Place Qi-compliant charged devices (such as smartphones, smart watches, etc.) stably in the **effective antenna area** of the wireless charger. It is recommended to use the "center alignment method" for placement (align the center of the device's wireless charging coil with the center of the wireless charger's antenna), with an offset not exceeding 8mm to ensure charging efficiency.

(2) Charging Startup and Status Indication

After the device is placed, the WG12 executes the following processes in sequence:

- **FOD Foreign Object Detection:** Scans the charging area. If metal foreign objects (such as coins, keys) are detected, charging is prohibited; if there are no foreign objects, it proceeds to the next stage.
- **Protocol Authentication and Negotiation:** The charged device and the wireless charger confirm parameters such as charging power and safety mechanisms to ensure protocol compatibility.
- **Power Transmission Initialization:** After the negotiation is completed, charging starts. At this time, **the blue indicator lights on both sides of the wireless charger remain on**, and the cooling device and heat dissipation fan operate at full speed. This design is for heat dissipation during 25W high-power charging; through active cooling + fan heat dissipation, the device temperature is controlled within a safe range to ensure charging stability.

(3) Charging Interruption Handling

If the charged device is removed before being fully charged, the device executes the following actions:

- The blue indicator light turns from on to off, indicating charging interruption.
- The cooling device is turned off first, and the fan is turned off after a 10-second delay. This sequence is designed to dissipate residual heat inside the device and prevent residual heat from damaging components. Do not perform the next operation until the fan stops running.

4. Operation After Charging Completion

When the charged device reaches 100% battery level, the device automatically stops charging, and **the blue indicator light goes out**. At the same time, it executes the heat dissipation protection sequence: the cooling device is turned off first, and the fan is turned off after a 10-second delay. Users can safely remove the device after the fan stops running, and the wireless charger returns to the standby state.

5. Replacement Operation for Charged Devices

If it is necessary to replace the charged device, follow the processes in "3. Charging Operation for External Devices" and "4. Operation After Charging Completion":

1. Confirm that the current charging has ended (blue light is off, fan has stopped running).
2. Remove the fully charged device, place a new Qi-compliant device, and the wireless charger will automatically start the process of "FOD Detection → Protocol Negotiation → Power Transmission".

6. Device Shutdown Operation

When charging is no longer needed, perform the following steps:

1. Confirm that all charged devices have been removed, the blue light is off, and the fan has stopped running.
2. Turn off the device's power switch. It is recommended to unplug the power adapter to cut off all power input, ensuring electrical safety during long-term inactivity of the device.

7. Precautions and Maintenance Recommendations

1. Do not place non-charging devices or metal objects on the surface of the wireless charger to prevent FOD misjudgment or device overheating.
2. Clean the surface of the wireless charger and the dust in the heat dissipation vents at least once a month. Gently brush with a soft brush; do not use wet cloths or corrosive cleaning agents.
3. If abnormal indicators, sudden drop in charging speed, or device overheating occur, stop using the device immediately and contact official technical support for troubleshooting.
4. It is strictly prohibited to use non-original 15V 3A power adapters to prevent device damage caused by voltage/current mismatch.

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.